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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
193068 MLRS, MISSILE NUMBERS 1126 AND 1128, ROUND NUMBERS V-109--ETC(U)

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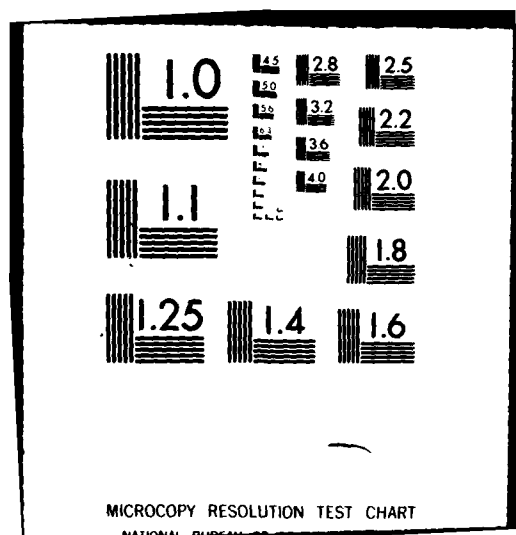
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METEOROLOGICAL DATA REPORT

193068 MLRS
Missile Nos. 1126, 1128
Round Nos. V-109, V-110

by

White Sands Meteorological Team

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)			
Meteorological data gathered for the launching of the 19306B MLRS, Missile Numbers 1126 and 1128, Round Numbers V-109 and V-110 are presented in tabular form.			

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JOB

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INTRODUCTION

19306B MLRS, Missile Numbers 1126 and 1128, Round Numbers V-109 and V-110, were launched from Snake Site, White Sands Missile Range (WSMR), New Mexico, at 1000:02 and 1000:06 MST, 4 February 1980. The scheduled launch times were 1000 and 1000:04 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m³), wind direction and speed, and cloud cover were made at the Snake Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RPTS T-9 pibal observation at:

SITE AND ALTITUDE

Snake	360 meters
Denver	800 meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 47,000 feet in 500-foot increments.

SITE AND TIME

Jallen	1000 MST
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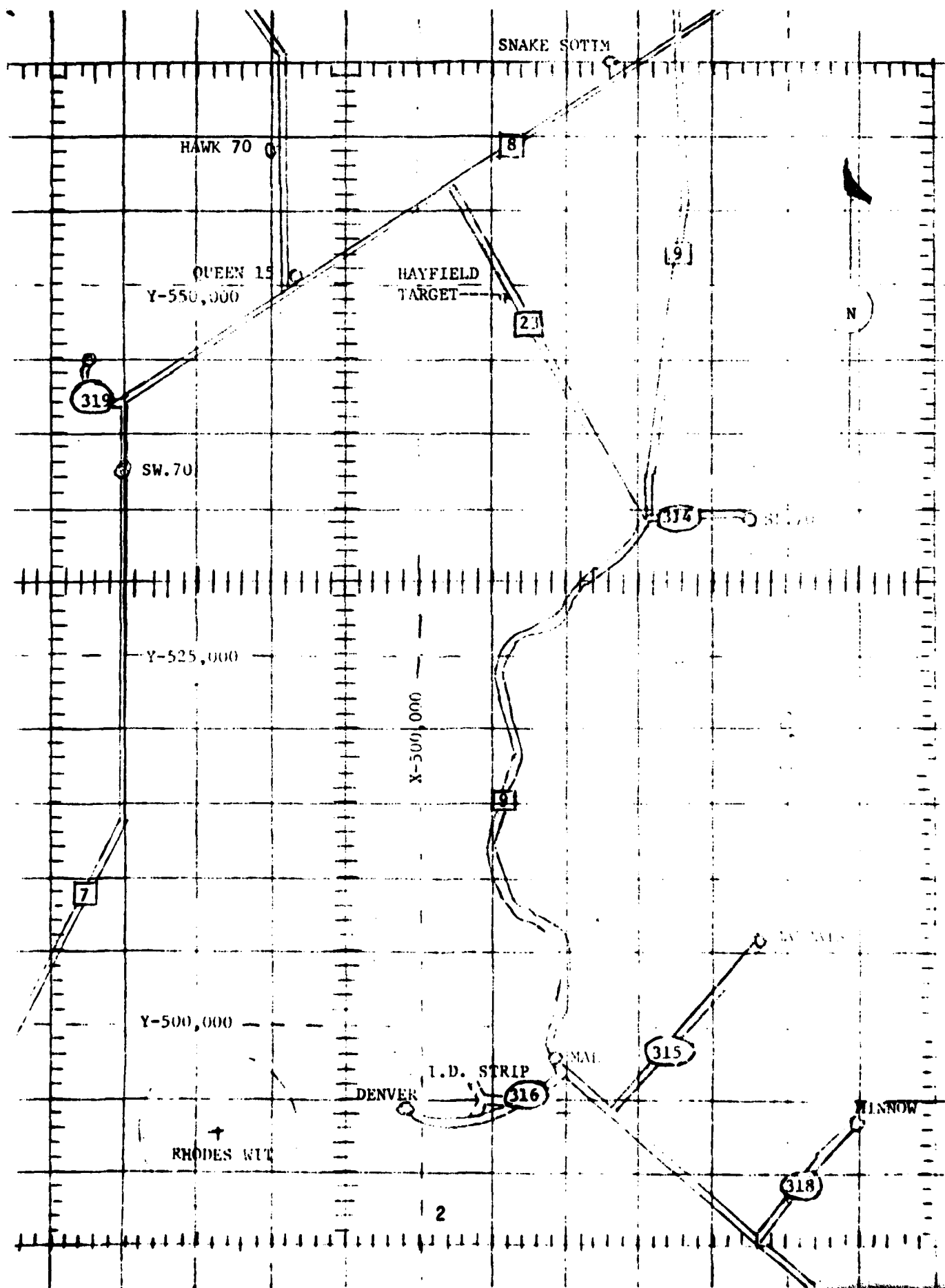


TABLE 1. Surface Observations taken at 1000 MST,
04 February 1980, at Snake Site, 19306B
MLRS, Missile Numbers 1126 and 1128, Round
Numbers V-109 and V-110.

ELEVATION	Unknown	FT/MSL
PRESSURE	867.5	MBS
TEMPERATURE	14.0	°C
RELATIVE HUMIDITY	40	%
DEW POINT	0.6	°C
DENSITY	1047	GM/M ³
WIND SPEED	Calm	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	1	Ci

PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM **Snake Site** DATE **04 February 1980** TIME **0800 MST**

TRACKER COORDINATES (WSTM) X= Unknown Y= Unknown H Unknown

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 3

RELEASED FROM Snake Site DATE 04 February 1980 TIME 0950 MST

TRACKER COORDINATES (WSTM) X= Unknown Y= Unknown H= Unknown

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM **Snake Site** DATE **04 February 1980** TIME **1000 MST**

TRACKER **COORDINATES (WSTM)** **X=** **Unknown** **Y=** **Unknown** **H=** **Unknown**

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL ____.

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM **Denver Site**

DATE **04 February 1980**

TIME 1020 MST

TRACKER

COORDINATES (WSTM)

$$\chi = 499,064.03$$
$$Y = 493,904.12$$

H= 4123.10

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

STATION ALTITUDE 4051.00 FEET MSL
4 FEB. 50 1000 HRS MST
ACQUISITION NO. 33

SIGNIFICANT LEVEL DATA
03509J0033
JALLEN

GEODLTIC COORDINATES
33.16712 LAT DEG
106.49511 LONG DEG

TABLE 6

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
880.0	13.0	.4	42.0
871.0	10.8	-1.3	43.0
854.0	9.1	-1.0	47.0
850.0	9.9	-1.2	40.0
784.2	10.8	-11.9	19.0
700.0	5.9	-19.5	14.0
538.0	-8.8	-20.7	18.0
500.0	-13.9	-33.0	18.0
400.0	-17.9	-29.3	50.0
450.6	-20.3	-27.0	55.0
435.3	-22.0	-32.7	39.0
425.9	-23.0	-20.0	67.0
413.6	-24.9	-20.0	75.0
400.0	-26.0	-29.0	74.0
392.2	-27.0	-32.5	59.0
344.8	-34.4	-44.4	35.0
313.0	-40.0	-49.7	34.0
300.0	-42.7		
250.0	-53.2		
203.4	-63.3		
200.0	-63.0		
189.8	-60.7		
171.8	-61.5		
163.2	-60.0		
162.0	-60.1		
155.0	-63.0		
150.6	-63.3		
139.0	-63.3		

STATION ALTITUDE 4051.00 FEET MSL
4 P.M. 10 1000 HRS MST
ASCENSION NO. 33

UPPER AIR DATA
055030033
JALLEN
TABLE 7 (cont)

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

GEODETIC ALTITUDE MSL FEET	PRESSURE WILLIAMS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³ MLTER	SPEED OF SOUND KIOTS	WIND DATA DIRECTION, DEGREES (TN)	SPEED KIOTS	INDEX OF REFRACTION
4051.0	880.8	13.0	42.0	1069.4	659.9	0	0	1.000267
4500.0	860.5	10.3	44.1	1062.2	656.7	4.3	1.6	1.000263
5000.0	850.8	9.8	46.2	1045.0	656.1	4.3	3.3	1.000259
5500.0	835.3	10.1	40.2	1025.1	656.4	4.3	5.1	1.000252
6000.0	820.2	10.3	34.0	1006.0	656.5	0	6.8	1.000244
6500.0	805.3	10.5	27.9	987.4	656.7	352.7	9.3	1.000237
7000.0	790.7	10.7	21.0	969.1	656.8	310.1	12.4	1.000229
7500.0	776.3	10.4	18.6	952.6	656.3	301.0	15.1	1.000223
8000.0	762.1	9.6	17.7	933.1	655.4	295.9	17.8	1.000219
8500.0	748.2	8.8	16.9	923.0	654.4	294.2	19.9	1.000215
9000.0	734.5	8.0	16.1	909.4	653.5	294.2	21.7	1.000211
9500.0	721.1	7.2	15.3	895.4	652.5	294.9	23.4	1.000207
10000.0	707.9	6.4	14.5	881.6	651.6	295.2	25.6	1.000203
10500.0	694.8	5.5	14.1	868.1	650.5	295.4	28.0	1.000200
11000.0	681.7	4.4	14.4	855.0	649.3	295.1	29.9	1.000196
11500.0	668.0	3.4	14.7	842.0	648.0	294.7	31.6	1.000193
12000.0	656.1	2.3	15.0	829.3	646.8	293.3	33.0	1.000190
12500.0	643.7	1.2	15.3	816.8	645.5	291.7	34.3	1.000187
13000.0	631.5	0.1	15.6	804.5	644.2	293.0	35.7	1.000184
13500.0	619.0	-0.9	15.9	792.4	643.0	294.6	37.2	1.000181
14000.0	607.8	-2.0	16.1	780.5	641.7	294.6	38.7	1.000178
14500.0	596.3	-3.1	16.4	768.7	640.4	294.6	40.4	1.000175
15000.0	585.0	-4.1	16.7	757.2	639.1	293.6	42.7	1.000173
15500.0	574.0	-5.2	17.0	745.8	637.9	292.7	45.1	1.000170
16000.0	563.1	-6.3	17.3	734.7	636.6	292.2	47.8	1.000167
16500.0	552.5	-7.3	17.6	723.7	635.3	291.7	50.0	1.000165
17000.0	542.0	-8.4	17.9	712.9	634.0	290.7	50.5	1.000162
17500.0	531.5	-9.6	18.0	702.4	632.5	289.6	50.6	1.000159
18000.0	521.1	-11.0	18.0	692.3	630.8	289.5	49.5	1.000157
18500.0	510.8	-12.4	18.0	682.3	629.2	289.5	49.4	1.000154
19000.0	500.8	-13.8	18.0	672.5	627.5	289.9	51.2	1.000152
19500.0	490.8	-15.0	22.7	662.0	626.1	290.0	52.9	1.000150
20000.0	481.0	-16.1	27.9	651.7	624.7	289.6	54.7	1.000148
20500.0	471.4	-17.2	33.0	641.5	623.3	289.2	55.5	1.000146
21000.0	462.0	-18.5	40.9	631.7	621.8	288.7	55.0	1.000144
21500.0	452.6	-20.0	52.5	622.5	620.0	288.4	54.1	1.000143
22000.0	443.4	-21.2	44.4	612.9	618.5	288.3	52.5	1.000140
22500.0	434.4	-22.5	40.0	603.4	616.9	288.3	51.9	1.000137
23000.0	425.5	-23.6	67.3	593.7	615.5	288.3	52.6	1.000135
23500.0	416.7	-24.6	73.0	583.6	614.4	288.9	54.0	1.000134

STATION ALTITUDE 4951.00 FEET MSL
4 FEB. 86
ADULTATION NO. 33

UPPER AIR DATA
0350030033
JALLEN
TABLE 7 (cont)

GEOMETRIC COORDINATES
33.10712 LAT DEG
106.49511 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.1	-25.6	74.6	573.9	613.1	290.2	56.0	1.000131
24500.0	399.5	-26.6	73.2	564.4	611.8	291.4	56.9	1.000129
25000.0	391.2	-27.1	58.5	553.8	611.2	292.6	56.6	1.000126
25500.0	383.0	-28.4	54.6	544.9	609.6	293.4	56.4	1.000123
26000.0	374.9	-29.6	50.6	536.0	608.1	293.7	56.1	1.000121
26500.0	366.9	-30.8	46.6	527.4	606.5	293.6	55.9	1.000119
27000.0	359.2	-32.1	42.6	518.9	605.0	293.2	55.8	1.000117
27500.0	351.6	-33.3	34.6	510.5	603.4	292.6	55.2	1.000115
28000.0	344.1	-34.5	35.0	502.3	601.9	291.7	54.1	1.000113
28500.0	336.6	-35.8	34.8	494.0	600.2	291.4	54.2	1.000111
29000.0	329.3	-37.1	34.5	485.9	598.0	291.4	55.0	1.000109
29500.0	322.1	-38.3	34.3	477.9	597.0	291.8	57.0	1.000107
30000.0	315.1	-39.0	34.1	470.0	595.4	292.4	59.5	1.000105
30500.0	308.2	-41.0	21.6**	462.4	593.0	292.7	59.0	1.000103
31000.0	301.4	-42.4	3.7**	455.0	591.6	293.1	57.6	1.000101
31500.0	294.0	-43.8		447.3	590.1	293.5	55.8	1.000100
32000.0	287.9	-45.1		439.7	588.3	294.0	53.9	1.000099
32500.0	281.3	-46.4		432.2	586.6	294.0	55.0	1.000096
33000.0	274.9	-47.7		424.9	584.9	295.2	56.4	1.000095
33500.0	268.7	-49.1		417.0	583.2	296.5	58.7	1.000093
34000.0	262.5	-50.4		410.0	581.5	297.7	61.1	1.000091
34500.0	256.6	-51.7		403.6	579.7	299.1	62.5	1.000090
35000.0	250.7	-53.0		396.8	578.0	300.4	63.7	1.000088
35500.0	244.8	-54.2		389.5	576.4	301.5	64.1	1.000087
36000.0	239.0	-55.4		382.3	574.9	302.5	64.2	1.000085
36500.0	233.3	-56.6		375.2	573.3	303.2	64.0	1.000084
37000.0	227.7	-57.8		368.3	571.7	303.6	63.6	1.000082
37500.0	222.3	-59.0		361.5	570.2	303.8	63.1	1.000081
38000.0	217.0	-60.1		354.9	568.6	303.4	62.7	1.000079
38500.0	211.8	-61.3		348.3	567.0	303.0	62.4	1.000078
39000.0	206.8	-62.5		341.9	565.4	302.3	62.3	1.000076
39500.0	201.8	-63.4		335.2	564.2	301.6	62.3	1.000075
40000.0	196.9	-62.7		328.0	563.1	300.2	64.4	1.000073
40500.0	192.1	-61.4		316.0	560.9	298.9	66.5	1.000070
41000.0	187.5	-60.8		307.6	567.7	297.1	67.5	1.000069
41500.0	183.0	-61.0		300.4	567.4	295.2	68.3	1.000067
42000.0	178.5	-61.2		293.4	567.2	293.2	67.3	1.000065
42500.0	174.2	-61.4		286.6	566.9	291.0	65.1	1.000064
43000.0	170.6	-61.5		279.6	567.0	288.9	62.8	1.000062
43500.0	165.9	-60.9		272.3	567.0	287.2	59.8	1.000061

** AT LAST ONE ASSUMED REL. TIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION: ALTITUDE 4051.00 FEET MSL
 4 FEB. 60 1000 HRS MST
 ASCENSION NO. 33

UPPER AIR DATA
 0350030033
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LONG DEG

TABLE 7 (cont)

GEOPHIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KIOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KIOTS	
44000.0	161.9	-60.1		264.0	508.6	285.4	56.5	1.000059
44500.0	158.0	-61.7		260.4	509.4	284.3	48.5	1.000058
45000.0	154.2	-63.0		255.6	504.7	282.7	40.4	1.000057
45500.0	150.4	-63.3		249.7	504.4			1.000056
46000.0	146.8	-63.3		243.6	504.4			1.000054
46500.0	143.2	-63.3		237.7	504.4			1.000053
47000.0	139.7	-63.3		231.9	504.4			1.000052

STATION ALTITUDE 4051.00 FEET MSL
4 FEB. 80
ACQUISITION NO. 33

MANDATORY LEVELS
0350030033
JALLEN
TABLE 8

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON. DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5021.	9.9	-1.2	46.	4.3	3.4
800.0	6675.	10.6	-6.3	20.	320.5	10.5
750.0	8434.	8.9	-14.0	17.	294.4	19.6
700.0	10206.	5.9	-19.5	14.	295.4	27.1
650.0	12270.	1.8	-22.0	15.	292.4	33.7
600.0	14368.	-2.7	-24.7	16.	294.9	39.9
550.0	16610.	-7.6	-27.9	18.	291.5	50.1
500.0	19016.	-13.9	-33.0	18.	290.0	51.3
450.0	21611.	-20.4	-27.1	54.	288.4	53.7
400.0	24436.	-26.6	-29.0	74.	291.3	56.9
350.0	27560.	-33.5	-42.9	30.	292.4	55.0
300.0	31004.	-42.7			293.2	57.4
250.0	34900.	-53.2			300.0	63.4
200.0	39589.	-63.6			301.1	63.0
175.0	42306.	-61.4			291.5	63.6
150.0	45439.	-63.3				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.